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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/662,500 | 09/15/2003 | Nathaniel Bair | 67102-013 | 9191 |
| 26096 | 7590 | 10/05/2006 | EXAMINER | |
| CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009 | | | THOMAS, COURTNEY D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2882 | |

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/662,500 | Applicant(s) BAIR, NATHANIEL | |
| | Examiner Courtney Thomas | Art Unit 2882 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

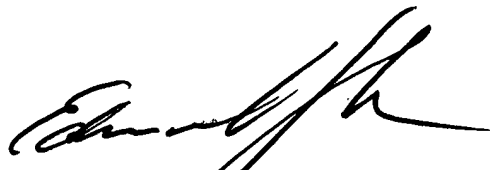
1. In view of the Appeal Brief filed on 06/26/06, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:



EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-9, 12, 14,15, 17, 20-22, 25, 26 and 32-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (U.S. Patent 5,677,940).

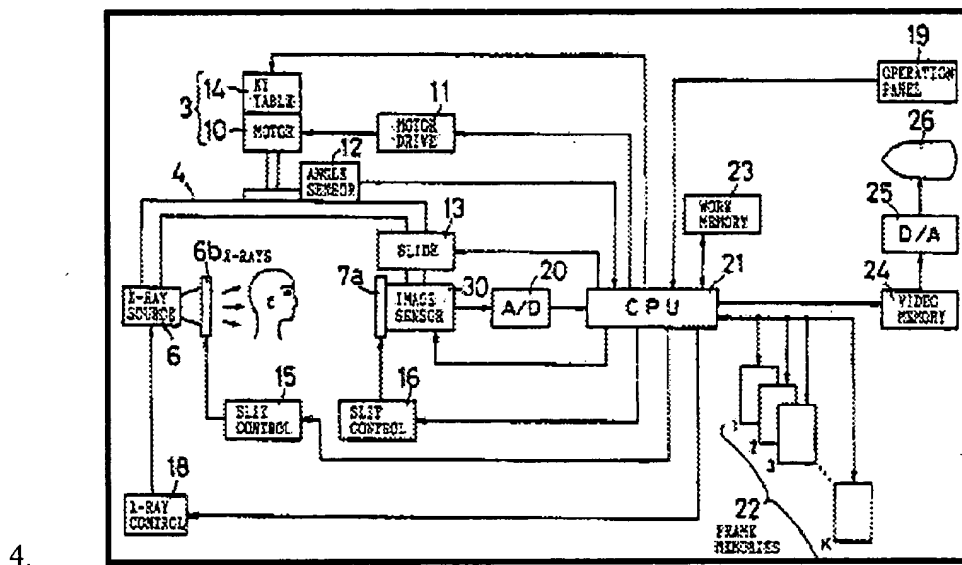


Figure 2 – CT Scanner – U.S. Patent 5,677,940 to Suzuki et al.

5. **As per claims 1, 25-26 and 32-39**, Suzuki et al. disclose a computed tomography scanner (and corresponding method) comprising: a gantry (4); an X-ray source (6) mounted to the gantry; an X-ray detector (30) mounted to the gantry opposite the X-ray source; and a motor (3) mounted to the gantry.

6. **As per claims 2-4**, Suzuki et al. disclose a computed tomography scanner further including a mounting plate secured to the motor, such that the motor imparts relative motion between the mounting plate and gantry (not shown above; see column 4, lines 13-24); wherein

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the motor is fixed to the gantry (see Fig. 2, shown above) such that the mounting plate rotates relative to the motor and gantry and wherein the motor imparts translational movement of the gantry relative to the mounting plate (column 4, lines 13-24).

7. **As per claims 5-9**, Suzuki et al. disclose a computed tomography scanner further including a computer (21) mounted to the gantry; wherein the computer sends signals to the motor (3) to control rotation of the gantry; wherein the computer controls the X-ray source (6); wherein the computer processes images collected from the X-ray detector (30)- see column 4, lines 25-46).

8. **As per claim 12**, Suzuki et al. disclose a computed tomography scanner wherein the gantry includes a housing in which the X-ray source is at least partially mounted (see Fig. 1, not shown above).

9. **As per claim 14**, Suzuki et al. disclose a computed tomography scanner comprising: a gantry including a crossbar (4); an X-ray source (6) mounted vertically downward of the crossbar; an X-ray detector (30) mounted vertically downward of the cross bar and positioned horizontally opposite the X-ray source; and a computer (21) mounted to the gantry.

10. **As per claims 15, 17 and 22**, Suzuki et al. disclose a computed tomography scanner wherein the computer controls the X-ray source (6); wherein the computer processes images collected from the X-ray detector (30)- see column 4, lines 25-46).

11. **As per claims 20 and 21**, Suzuki et al. disclose a computed tomography scanner comprising: a gantry (4); an X-ray source (6) mounted to the gantry; an X-ray detector (30) mounted to the gantry opposite the X-ray source; a mount rotatably mounted to the gantry (not

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numbered) a motor (3) mounted to at least one of the gantry and the mount; and a computer (21) mounted to the gantry.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 10, 11, 13, 16, 18, 23, 27, 28 and 31 rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U.S. Patent 5,677,940) in view of Graumann (U.S. Patent 6,496,558).

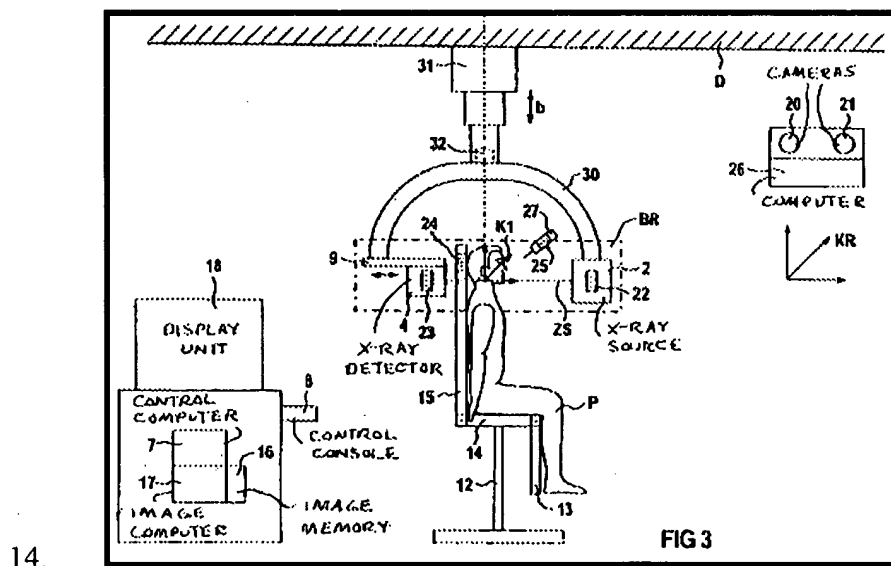


Figure 3 – CT Scanner – U.S. Patent 6,496,558 to Graumann

15. As per claims 10, 18, 23, 27, 28 and 31, Suzuki et al. disclose a computed tomography scanner as recited in claims 1, 14, 21 and 25 but do not explicitly disclose a scanner wherein a computer creates a 3D model based on collected images from an X-ray detector.

16. Graumann discloses a scanner comprising a computer configured to create 3D images based on collected data from an X-ray detector (Abstract).

17. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the scanner of Suzuki et al. such that it incorporated a computer configured to create a 3D model based on collected images from an X-ray detector. One would have been motivated to make such a modification for the purpose of producing volumetric images of a region of interest as a means of diagnosis and pre-surgery preparations as suggested by Graumann (Abstract; column 3, lines 14-39).

18. **As per claims 11 and 16**, Suzuki et al. disclose a computed tomography scanner as recited in claims 1 and 14, but do not explicitly disclose the X-ray detector is movable relative to the gantry and/or the computer controls the movement of the detector.

19. Graumann teaches a scanner wherein the X-ray detector (4) is movable relative to the gantry (30) (see Fig. 3; see also column 6, lines 32-37; 55-60).

20. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the scanner of Suzuki et al. such that it incorporated a detector movable relative to the gantry.

21. One would have been motivated to make such a modification for the purpose of enabling movement of the detector such that the central beam of a conical X-ray bundle proceeding from the X-ray source (2) strikes the input screen of the X-ray detector (4) approximately centrally, as taught by Graumann (column 6, lines 32-37; 55-60).

22. **As per claim 13**, Suzuki et al. disclose a computed tomography scanner as recited in claim 1, but do not explicitly disclose the X-ray source is a cone-beam X-ray source.

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23. Graumann teaches a scanner comprising a conical beam X-ray source (2) that facilitates the generation of 3D images.

24. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the scanner of Suzuki et al. such that it incorporated the conical X-ray source of Graumann. One would have been motivated to make such a modification for the purpose of facilitating the generation of volumetric images, useful for diagnosis and treatment planning as suggested by Graumann (Abstract; column 3, lines 14-39).

25. Claims 19, 24, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U.S. Patent 5,677,940).

26. **As per claims 19, 24, 29 and 30**, Suzuki et al. do not explicitly disclose a scanner and corresponding method comprising a wireless transmitter on a gantry configured to transmit 3D images. It would have been obvious to one having ordinary skill in the art at the time the invention was made modify he scanner (and method) of Suzuki such that it incorporated a wireless transmitter for wireless transmission of image data. One would have been motivated to make such a modification for the purpose of transmitting to remote locations without the use of wires as is currently practiced in the radiological arts.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney Thomas whose telephone number is (571) 272-2496. The examiner can normally be reached on M - F (9 am - 5 pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272 2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Courtney Thomas
Primary Examiner
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